

ABSTRACT

A planar top yoke in a magnetic write head is disclosed. The top yoke includes a backside region and a second pole tip region that is thinner than the backside region and forms a step at the ABS. Alternatively, a front section of the backside region includes a step with a thickness greater than the second pole tip region. Therefore, flux is directed from a thicker backside region toward the gap side of the second pole tip layer near the ABS. A lower flux density is formed at the top of the step at the ABS which reduces the flank field/gap field ratio and prevents unwanted erasure of adjacent data tracks. A high gap field is achieved while maintaining a low flank field during high write current conditions. The step recess from the ABS toward the backside region is about 0.2 to 2 microns.